

# **EXHIBIT 1**

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RE: UTI Detection

Dear Valued Client,

We are excited to announce that starting within the next month we will be offering new testing for the detection of urinary tract infection. This new testing should profoundly improve the care of your residents. Gamma Healthcare is committed to providing testing using the latest advances in technology available. We have also retained the services of Dr. Anthony Harden to assist with the development of these tests. Dr. Harden has many years of experience as a Clinical Pathologist and clearly outlines the benefits of the new testing methodology in the attached literature.

***Carefully read the attached educational materials to gain a full understanding of these tests and how they will impact the care of your residents.***

The new testing should begin by mid January 2020. Please contact your local representative or call our customer service department should you have additional questions.

Thank you for allowing Gamma Healthcare to partner with your organization for the care of your residents.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerrod Murphy", with a long horizontal flourish extending to the right.

Jerrod Murphy  
President

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Gamma HealthCare  
Incorporated



I would like to introduce a new test that will greatly enhance the traditional time-honored methodology for diagnosing urinary tract infections (UTIs).

By way of background, for a disease described since antiquity, UTIs surprisingly remain one of the major challenges of modern medicine. With an annual incidence estimated to exceed 250 million UTI episodes globally, roughly 10 million physician office and 2.5 million emergency department (ED) visits occur annually in the US alone. A good number of the ED visits, up to 17% in one study, will turn into hospitalizations. Before even considering the sheer inconvenience and diminished quality of life those numbers entail, the costs to society are staggering (in the billions).

UTIs are a particularly difficult problem for elderly residents residing in long term care facilities (LTCs). Representing the most commonly treated infectious disease (over a third of all LTC-associated infections) and accordingly the most common reason for prescribing antibiotics in that population, the clinical presentation is frequently atypical and often misdiagnosed (e.g. mistaken for dementia).

Complicating the matter, the days of casually prescribing antibiotics are over. While it is certainly inappropriate to withhold an antibiotic when truly indicated, over 50% of antibiotic usage in LTCs is deemed inappropriate under current guidelines. Coupled with that, it is now recognized beyond any doubt that the over prescribing of antibiotics is associated with increasingly dire consequences for both individual patients (e.g. the development of *Clostridium difficile* colitis) and society as a whole (fueling the rapid growth of multi-drug resistant organisms).

With this in mind, the goal at Gamma HealthCare is faster and more precise diagnosis allowing appropriate therapy to be administered in a timelier fashion to only those patients who will benefit.

**QuantStudio 12k Flex Real Time PCR System** The UA with C&S (as indicated) will be performed exactly as before and reported in the usual time frame. When C&S is indicated (positive UA), a portion of the sample will be diverted to this instrument for PCR (polymerase chain reaction) analysis utilizing a TaqMan urinary tract microbiota assay panel tailored to detect 97+% of the uropathogens historically encountered in the the Gamma HealthCare service area. In addition to the rapid identification of the most common UTI bacterial pathogens at a molecular level of sensitivity and specificity, multiple antibiotic resistance genes will also be assessed. Results will be reported within 8 hours of the specimen reaching the PCR testing department.

As in the past, this complete suite of tests will allow Gamma HealthCare to fully support the infection control and antibiotic stewardship programs of individual clients with institution and enterprise specific data analysis including antibiograms and surveillance for resistant organisms.

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**Final Analysis** For most UTIs, this algorithm will reduce the laboratory time to clinically actionable results (TAT) from days to hours. There will be fewer false negatives and fewer specimens will be dismissed as contaminated. A shrinking clinical time frame will allow for better antibiotic stewardship. Above all, an opportunity exists for significantly improved patient care.

**Things to Remember** The distinction between clinically symptomatic UTI (as supported by frequency, urgency, dysuria, suprapubic pain, incontinence, etc.) and asymptomatic UTI (bacteriuria without genitourinary symptoms) is critical to good patient care. Numerous studies have shown that antibiotic treatment purely on the basis of organisms present in the urine (variously referred to as colonization, bacteriuria and asymptomatic UTI) is of no benefit to the patient and may cause harm. LTC residents commonly have polymicrobial bacteriuria (more than one organism in the urine) and tend to host organisms with increased antibiotic resistance relative to the surrounding community. The latter likely reflects past overexposure to antibiotics personally and in the LTC environment.

The presence of bacteria (or yeast) in the urine almost always elicits a host response. Accordingly, pyuria (increased WBCs on microscopic exam/dipstick positive leukocyte esterase) is not a reliable determinate between asymptomatic and symptomatic UTI. Likewise, fever in the absence of localizing genitourinary symptoms is a poor distinguisher between the two. Confident diagnosis of symptomatic UTI, the current primary guideline for antibiotic intervention, requires close correlation between clinical and laboratory findings.

In closing, this advisory is geared primarily towards elderly LTC residents without indwelling urinary catheters. While UTI represents the most common cause of bacteremia in the LTC population, the association with indwelling catheters is even stronger. Individuals with indwelling catheters almost invariably have asymptomatic UTI, usually with several organisms present. Depending on collection technique, cultures are more likely to reflect the catheter biofilm than bladder urine. In this particular subset, the most frequent indicator of a transition to symptomatic UTI is fever. Highlighting once again the importance of a fast accurate laboratory assessment, clinical deterioration with the development of urosepsis may happen very quickly.

Thank you for your time and attention. I look forward to sharing other exciting advances from Gamma HealthCare in the future. Please don't hesitate to contact me or any other member of the Gamma team whenever we can be of service.

Dr. Anthony Harden  
Gamma HealthCare Inc.